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April 29, 2004

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**Attn: Mr. Donald S. Fairchild**  
Office of Patent Publications  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Re: SN 09/885,723 "TRANSGENIC PLANTS CONTAINING ALTERED LEVELS OF  
STEROID COMPOUNDS" - Balasulajini Karunanandaa, et al.  
Our Ref. MONS:018US; Client Ref. 51906-US 01**

Dear Sir:

Applicants received a call from the Office of Patent Publications indicating that Table 5 on page 59 of the referenced patent application included data that was cut off in the right hand margin. Applicants were requested to provide a version of the Table suitable for publication.

Therefore, Applicants have provided herewith one marked copy and one clean copy of Table 5 in which the data on the right hand side that was partially incomplete has been deleted. The deleted information is not necessary for an understanding of the Table or the claims generally, as the corresponding amino acid sequences are shown in the alignment in Figure 32, and the corresponding organisms are given on the left hand side of the Table.

The Office is invited to contact the undersigned with any questions regarding this matter.

Respectfully submitted,



Robert E. Hanson  
Reg. No. 42,628

REH/vv  
Enclosure

25410066.1 / 10210131

Table 5. Sources of Sequences Used In Building  
The Multiple Alignment

methanobac	swissprot:hmdh_meth	Begin:1	End:397	O26662 methanobacterium_thermoautotrophicum
methanococ	swissprot:hmdh_meth	Begin:1	End:405	Q58116 methanococcus_jannaschii_3-hydroxy-3-
halobacter	swissprot:hmdh_halvo	Begin:1	End:403	Q59468 halobacterium_valensis_(haloferum-valens)
sulfolobus	swissprot:hmdh_sulso	Begin:1	End:409	O08424 sulfolobus-solfataricus_3-hydroxy-3-me
yeast2	gp_pln1:yschmgcr2_1	Begin:1	End:1045	M22255 Saccharomyces_cerevisiae_Yeast-HMG
yeast1	gp_pln1:yschmgcr1_1	Begin:1	End:1054	M22002 Saccharomyces_cerevisiae_Yeast-HMG
phycomyces	swissprot:hmdh_phyl	Begin:1	End:105	Q12649 phycomyces-blakesleeanus_3-hydroxy-
fusarium	swissprot:hmdh_fusmo	Begin:1	End:976	Q12577 fusarium-moniliforme_(gibberella-fujikure)
candida	gp_pln1:ab012603_1	Begin:1	End:934	AB012603 Candida-utile_Candida-utile-HMG-rrb
dictyoste2	swissprot:hmd2_dtodi	Begin:1	End:481	P34136 dictyostelium-discoideum_(slime-mold)-
wheat1	pir2:pq0761	Begin:1	End:150	hydroxymethylglutaryl-CoA reductase (NADPH)
rice	swissprot:hmdh_orysa	Begin:1	End:509	P48019 oryza-sativa_(rice)_3-hydroxy-3-methyl-
corn	sp_plant:ab24594	Begin:1	End:579	O24594 zea-mays_(maize)_3-hydroxy-3-methyl-
wheat3	pir2:pq0763	Begin:1	End:160	hydroxymethylglutaryl-CoA reductase (NADPH)
wheat2	pir2:pq0762	Begin:1	End:150	hydroxymethylglutaryl-CoA reductase (NADPH)
soybean	gmbx6:30820_1r59f1	Begin:101	End:259	from proprietary soy sequence database
rubbertre3	swissprot:hmd3_hevbr	Begin:1	End:586	Q00583 hevea-brasilensis_(para-rubber-tree)-7-
rosyperiwl	swissprot:hmdh_catro	Begin:1	End:601	Q03163 eatharanthus-resineo_(red-periwinkle)-4-
tomato	swissprot:hmd2_lyces	Begin:1	End:602	P48022 lyceospermon-esculentum_(tomato)_3-hy-
woodtobacc	swissprot:hmdh_nicsy	Begin:1	End:604	Q01559 nicotiana-sylvestris_(weed-tobacco)_3-h-
potato	gp_pln1:pothmgri_1	Begin:1	End:596	L01400 Solanum-tuberosum_Potato-hydroxymeth-
radish	sp_plant:q43826	Begin:1	End:573	Q43826 rapheanus-radish_hydroxymeth-
arabidopsis1	gp_pln1:athhmgoar_1	Begin:1	End:592	L19261 Arabidopsis-thaliana-Arabidopsis-thalian-
cucumismel	gp_pln1:ab021862_1	Begin:1	End:587	AB021862 Cucumis-melo-Cucumis-melo-mRNA
rubbertre2	swissprot:hmd2_hevbr	Begin:1	End:210	P29058 hevea-brasilensis_(para-rubber-tree)-3-
rubbertre1	swissprot:hmd1_hevbr	Begin:1	End:575	P29057 hevea-brasilensis_(para-rubber-tree)-3-
camptothec	swissprot:hmdh_camac	Begin:1	End:593	P48021 camptotheca-acuminata_3-hydroxy-3-m-
arabidops2	swissprot:hmd2_arath	Begin:1	End:562	P43256 arabidopsis-thaliana_(mouse-ear-earax)-
chineseham1	swissprot:hmdh_crigr	Begin:1	End:887	P00347 erigerulus-griseus_(chinese-hemate)-3-
chineseha2	gp_rod:cruhmg14_1	Begin:1	End:887	L00183 Gricetus-ep_Hamster-3-hydroxy-3-met-
syrianhamst	gp_rod:hemhmgcob_1	Begin:1	End:887	M12705 Mezocricetus-tureetus-Syrian-hamster-3-
rat	swissprot:hmdh_rat	Begin:1	End:887	P51639 ratus-rattus-(rat)_3-hydroxy-3-met-
rabbit	swissprot:hmdh_rabit	Begin:1	End:888	Q29512 oryctolagus-cuniculus-(rabbit)_3-hydrox-
human	gp_pr12:humhmgcoa_1	Begin:1	End:888	M11058 Homo-sapiens-Human-3-hydroxy-3-met-
mouse	gp_rod:mushmgcoa_1	Begin:1	End:224	M62766 Mus-musculus-Mouse-HMG-CoA-red-
xenopus	swissprot:hmdh_xenia	Begin:1	End:883	P20715 xenopus-laevae_(african-clawed-frog)-3-
searachin	swissprot:hmdh_stpu	Begin:1	End:932	P16393 chrysogaster-trochus-purpuratus_(purple-sn-
cockroach	swissprot:hmdh_blae	Begin:1	End:856	P54950 blattella-germanica_(german-cockroach)-
drosophila	swissprot:hmdh_drome	Begin:1	End:916	P14773 drosophila-melanogaster_(fruit-fly)_3-hy-
dictyoste1	swissprot:hmd1_dtcl1	Begin:1	End:552	P34135 dictyostelium-discoideum_(slime-mold)-
schistosom	swissprot:hmdh_schma	Begin:1	End:948	P16237 schistosoma-manseii_(blood-fluke)_3-hy-
archaeoglo	swissprot:hmdh_arctu	Begin:1	End:436	O28538 archaeoglobus-fulgidus_3-hydroxy-3-m-
pseudomonas	gp_bct1:psehmgoa_1	Begin:1	End:428	M24015 Pseudomonas-mevalonii_P.mevalonii-rrb

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These sequences, and their truncated counterparts, are useful in the present invention. Examples of such preferred HMG CoA reductases include the truncated rubber and *Arabidopsis* HMG CoA reductases disclosed herein.

Other enzyme-encoding DNAs can be introduced into plants to elevate even further the levels of desirable  $\Delta 5$  sterols and their reduced stanol counterparts as well as other phytosterols and tocopherols. Thus, the

Table 5. Sources of Sequences Used In Building  
The Multiple Alignment

methanobac	swissprotchmdh_meth	Begin:1	End:397	O26662
methanococ	swissprotchmdh_meth	Begin:1	End:405	Q58116
halobacter	swissprotchmdh_halo	Begin:1	End:403	Q59468
sulfolobus	swissprotchmdh_sulso	Begin:1	End:409	O08424
yeast2	gp_p1n1:yschvngcr2_1	Begin:1	End:1045	M22255
yeast1	gp_p1n1:yschvngcr1_1	Begin:1	End:1054	M22002
phycomyces	swissprotchmdh_phyl	Begin:1	End:105	Q12649
fusarium	swissprotchmdh_fusmo	Begin:1	End:976	Q12577
candida	gp_p1n1:ab012603_1	Begin:1	End:934	AB012603
dictyoste2	swissprotchmd2_dicdl	Begin:1	End:481	P34136
wheat1	pir2:pq0761	Begin:1	End:150	hydroxymethylglutaryl-CoA reductase (NADPH)
rice	swissprotchmdh_orysa	Begin:1	End:509	P48019
corn	sp_planto24594	Begin:1	End:579	O24594
wheat3	pir2:pq0763	Begin:1	End:150	hydroxymethylglutaryl-CoA reductase (NADPH)
wheat2	pir2:pq0762	Begin:1	End:150	hydroxymethylglutaryl-CoA reductase (NADPH)
soybean	gmb6:30820_1:5911	Begin:101	End:259	from proprietary soy sequence database
rubbertre3	swissprotchmd3_hevbr	Begin:1	End:586	Q00583
rosyperiw1	swissprotchmdh_cattro	Begin:1	End:601	Q03163
tomato	swissprotchmd2_lyces	Begin:1	End:602	P48022
woodtobacc	swissprotchmdh_nicsey	Begin:1	End:604	Q01559
potato	gp_p1n1:potmgri_1	Begin:1	End:596	L01400
radish	sp_plantq43826	Begin:1	End:573	Q43826
arabidopsis1	gp_p1n1:athhmgcoar_1	Begin:1	End:592	L19261
cucumismel	gp_p1n1:ab021862_1	Begin:1	End:587	AB021862
rubbertre2	swissprotchmd2_hevbr	Begin:1	End:210	P29058
rubbertre1	swissprotchmd1_hevbr	Begin:1	End:575	P29057
camptothec	swissprotchmdh_camac	Begin:1	End:593	P48021
arabidopsis2	swissprotchmd2_arath	Begin:1	End:582	P43266
chineseham1	swissprotchmdh_crigr	Begin:1	End:887	P00347
chineseham2	gp_rod:cruhmg14_1	Begin:1	End:887	L00183
syrianhamst	gp_rod:thamhmgcob_1	Begin:1	End:887	M12705
rat	swissprotchmdh_rat	Begin:1	End:887	P51639
rabbit	swissprotchmdh_rabbit	Begin:1	End:888	Q29512
human	gp_p1n2:humhmgcoa_1	Begin:1	End:888	M11058
mouse	gp_rod:mushmgcoa_1	Begin:1	End:224	M62766
xenopus	swissprotchmdh_xenla	Begin:1	End:883	P20715
seaurchin	swissprotchmdh_stpnu	Begin:1	End:932	P16393
cockroach	swissprotchmdh_blage	Begin:1	End:856	P54960
drosophila	swissprotchmdh_drome	Begin:1	End:916	P14773
dictyoste1	swissprotchmd1_dicdi	Begin:1	End:552	P34135
schistosom	swissprotchmdh_schma	Begin:1	End:948	P16237
archaeoglo	swissprotchmdh_arctu	Begin:1	End:436	O28538
pseudomonas	gp_bcl1:psehmgcoa_1	Begin:1	End:428	M24015

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These sequences, and their truncated counterparts, are useful in the present invention. Examples of such preferred HMG CoA reductases include the truncated rubber and *Arabidopsis* HMG CoA reductases disclosed herein.

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